

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION

EC-59

Effective September 1, 2010

Revised August 1, 2011

*The following product has been evaluated for compliance with the wind loads specified in **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **August 2014**.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

Nichiha NichiBoard™ (smooth and primed cedar finish) and NichiPanel™ (smooth, primed cedar finish, stucco and grooved cedar finish), fiber-reinforced cement exterior siding and fiber-reinforced cement exterior cladding, manufactured by:

Nichiha Corporation

2-18-19 Nishiki, Naka-ku, Nagoya, Aichi 460-8610 Japan
Telephone: +81-52-220-5111

Nichiha USA, Inc.

6659 Peachtree Industrial Boulevard, Suite AA
Norcross, GA 30092
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will be acceptable for use in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

NichiBoard™ lap siding is nominal 5/16" thick and comes in widths of 6.25", 7.25" and 8.25" inches. The siding comes in 12 foot (144") lengths. The lap siding panels are available in either smooth or cedar texture.

NichiPanel™ siding is designed for vertical wall applications. The panels are available in 4' x 8', 4' x 10' and 4' x 12' panels with a nominal thickness of 5/16" and in either smooth, cedar texture, stucco or grooved cedar texture.

INSTALLATION REQUIREMENTS

General Installation Requirements:

All **NichiProducts™** can be installed directly on wood frame or steel stud (20GA or heavier) construction spaced at a maximum of 24" o.c. or over sheathing with wood or steel stud framing.

A weather resistive barrier is required in accordance with local building codes when installing NichiProducts. Use the approved weather resistive barrier (WRB) as defined by the IRC or IBC.

All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC); the International Building Code (IBC); and the Texas Revisions.

Stainless steel fasteners are highly recommended in high-humidity and high-moisture regions. Do not use aluminum fasteners, staples, clipped head or T-head nails, or fasteners that are not rated or designed for intended use.

WOOD FRAMING APPLICATIONS

Assembly No. 1

Nichiha NichiPanel 5/16" x 48" x 96"

Fastener: #8 x 1 5/8" long Flat Washer Head, Drivall Self Drilling Screws with GrabberGard coating. The screw is manufactured by Grabber, part #BGCB8158SD. The screw head is 0.406" average diameter with a 0.166" average thread diameter, these measurements include the coating.

Design pressure: -60.3 psf

Installation: Wall studs shall be minimum 2" x 6" No. 2 grade Spruce-Pine-Fir (SPF) dimension lumber spaced a maximum of 24 inches on center. A sheet of NichiPanel shall be laid down in the vertical orientation which denotes the long edge of the panel is parallel to the studs. The fasteners shall be placed at 4" o.c. around the perimeter and 4" o.c. along the field studs. The perimeter fasteners shall be located $\frac{3}{8}$ " in from the edge of the panel.

Assembly No. 2

Nichiha NichiPanel 5/16" x 48" x 96"

Fastener: #8 x 1 $\frac{5}{8}$ " long Flat Washer Head, Drivall Self Drilling Screws with GrabberGard coating. The screw is manufactured by Grabber, part #BGCB8158SD. The screw head is 0.406" average diameter with a 0.166" average thread diameter, these measurements include the coating.

Design pressure: -37.2 psf

Installation: Wall studs shall be minimum 2" x 6" No. 2 grade Spruce-Pine-Fir (SPF) dimension lumber spaced a maximum of 16 inches on center. A sheet of NichiPanel shall be laid down in the vertical orientation which denotes the long edge of the panel is parallel to the studs. The fasteners shall be placed at 6" o.c. around the perimeter and 12" o.c. along the field studs. The perimeter fasteners shall be located $\frac{3}{8}$ " in from the edge of the panel.

Assembly No. 3

Nichiha NichiPanel 5/16" x 48" x 96"

Fastener: 2 $\frac{1}{2}$ " long 8d, smooth shank, Off White N-164, Masonite Siding Nails, Item 6219-1116-35. The nail head is 0.313" average diameter, nail shank is 0.118" average diameter, these measurements include the coating. The nail is manufactured by Masonite Corporation.

Design pressure: -39.9 psf

Installation: Wall studs shall be minimum 2" x 6" No. 2 grade Spruce-Pine-Fir (SPF) dimension lumber spaced a maximum of 16 inches on center. A sheet of NichiPanel shall be laid down in the vertical orientation which denotes the long edge of the panel is parallel to the studs. The fasteners shall be placed at 8" o.c. around the perimeter and 8" o.c. along the field studs. The perimeter fasteners shall be located $\frac{3}{8}$ " in from the edge of the panel.

Assembly No. 4

Nichiha NichiBoard 5/16" x 6.25"

Fastener: 1 $\frac{3}{4}$ " long Stormgaurd R-104 Double Hot Dipped Galvanized in Molten Zinc, Asphalt and Fiberglass Shingle Nails. The nail head is 0.365" average diameter, and the shank diameter is 0.125". The nail is manufactured by W.H. Maze Co.

Design pressure: -37.4 psf

Installation: Wall studs shall be minimum 2" x 4" No. 2 grade Spruce-Pine-Fir (SPF) dimension lumber spaced a maximum of 16 inches on center. The siding shall be applied to the test specimen using 1 $\frac{3}{4}$ " long roofing nails. The fasteners shall be nailed through the face of the panel so that the fasteners will be set flush to the surface or slightly above. The fasteners shall be set 1" down from the top edge of the leading course. The next course shall be set to overlap the proceeding course 1 $\frac{1}{4}$ ", and is considered a blind nailed condition.

Assembly No. 5

Nichiha NichiBoard 5/16" x 7.25"

Fastener: 1 $\frac{3}{4}$ " long, Stormguard® R-104, Double Hot-Dip Galvanized in Molten Zinc, Asphalt and Fiberglass Shingle Nails. The nail head is 0.365" average diameter, and the shank diameter is 0.125". These measurements include the galvanized coating. The nail is manufactured by W.H. Maze Co.

Design pressure: -21.9 psf

Installation: Wall studs shall be minimum 2" x 4" No. 2 grade Spruce-Pine-Fir (SPF) dimension lumber spaced a maximum of 16 inches on center. The siding shall be applied to the wood stud framing members using 1 $\frac{3}{4}$ " shingle nails. The fasteners shall be nailed through the face of the panel so that the fasteners will be set flush to the surface or slightly above. The fasteners shall be set 1" down from the top edge of the leading course. The next course shall be set to overlap the proceeding course 1 $\frac{1}{4}$ ", and is considered a blind nailed condition.

Assembly No. 6

Nichiha NichiBoard 5/16" x 7.25"

Fastener: 2" 6d CLH, 15-degree "Coil-ated", Double-dipped in Molten Zinc, Siding Nails. The nail head is 0.237" average diameter, and the nail shank is 0.099" average diameter. These measurements include the galvanized coating. The nail is manufactured by W.H. Maze Co.

Design pressure: -76.3 psf

Installation: Wall studs shall be minimum 2" x 4" No. 2 grade Spruce-Pine-Fir (SPF) dimension lumber spaced a maximum of 16 inches on center. The siding shall be applied to the wood framing members using 2" 6d siding nails. The fasteners shall be nailed through the face of the panel so that the fasteners will be set flush to the surface or slightly above. The fasteners shall be set 1" up from the bottom edge of the leading course. The next course shall be set to overlap the proceeding course 1 $\frac{1}{4}$ ", and is considered a face nailed condition.

Assembly No. 7

Nichiha NichiBoard 5/16" x 8.25"

Fastener: 2 ½" 6d CLCEM117 15 degree "Coil-ated", Double hot dipped siding nails. The nail head is 0.236" average diameter, and the nail shank is 0.097" average diameter. These measurements include the galvanized coating. The nail is manufactured by W.H. Maze Co.

Design pressure: -61 psf

Installation: Wall studs shall be minimum 2" x 6" No. 2 grade Spruce-Pine-Fir (SPF) dimension lumber spaced a maximum of 16 inches on center. The siding shall be applied to the wood framing members using 2 ½" 6d siding nails. The fasteners shall be nailed through the face of the panel so that the fasteners will be set flush to the surface or slightly above. The fasteners shall be set 1" up from the bottom edge of the leading course. The next course shall be set to overlap the proceeding course 1 ¼", and is considered a face nailed condition.

METAL FRAMING APPLICATIONS

Assembly No. 1

Nichiha NichiPanel 5/16" x 48" x 96"

Fastener: 0.100" x 1 ½" long large head, conical wire coil, 200 per coil, Gripshank® steel pins. The pin is manufactured by Aerosmith Fastening Systems, VersaPin™, part #2385A. The pin head is 0.301" average diameter, pin shank is 0.106" average diameter, these measurements include the coating.

Design pressure: -29.3 psf

Installation: Wall studs shall be 6" CSJ Steel Studs, 20 gauge, with 1 ⅝" legs. The track shall be 6" TSB steel track, 20 gauge, with 1 ¼" legs. The studs shall be placed 16" on center. The NichiPanel shall be oriented vertically, which indicates that the long edge of the panel is parallel to the studs. The fasteners shall be placed 8" o.c. around the perimeter and 8" o.c. along the center of the field studs. The perimeter fasteners shall be located ⅜" in from the edge of the sheathing.

Assembly No. 2

Nichiha NichiPanel 5/16" x 48" x 96"

Fastener: #8 x 1 ⅝" long Flat Wafer Head, Drivall Self Drilling Screws with GrabberBard coating. The screw is manufactured by Grabber, part #BGCB158SD. The screw head is .406" average diameter with a .166" average thread diameter, these measurements include the coating.

Design pressure: -32.3 psf

Installation: Wall studs shall be 6" CSJ Steel Studs, 20 gauge, with 1 ⅝" legs. The track shall be 6" TSB steel track, 20 gauge, with 1 ¼" legs. The studs shall be placed 16" on center. The NichiPanel shall be oriented vertically, which indicates that the long edge of the panel is parallel to the studs. The fasteners shall be placed 6" o.c. around the perimeter and 12" o.c. along the center of the field studs. The perimeter fasteners shall be located ⅜" in from the edge of the sheathing.

Assembly No. 3

Nichiha NichiPanel 5/16" x 48" x 96"

Fastener: 0.100" x $1\frac{3}{8}$ " long large head, conical wire coil, 200 per coil, Gripshank® steel pins. The pin is manufactured by Aerosmith Fastening Systems, VersaPin™, part #2352A. The pin head is 0.251" average diameter, pin shank is 0.107" average diameter, these measurements include the coating.

Design pressure: -23.8 psf

Installation: Wall studs shall be 6" CSJ Steel Studs, 20 gauge, with $1\frac{5}{8}$ " legs. The track shall be 6" TSB steel track, 20 gauge, with $1\frac{1}{4}$ " legs. The NichiPanel shall be oriented vertically, which indicates that the long edge of the panel is parallel to the studs. The fasteners shall be placed 4" o.c. around the perimeter and 4" o.c. along the center of the field studs. The perimeter fasteners shall be located $\frac{3}{8}$ " in from the edge of the sheathing.

Assembly No. 4

Nichiha NichiBoard 5/16" x 7.25"

Fastener: 0.100" x $1\frac{1}{2}$ " long large head, conical wire coil, 200 per coil, Gripshank® steel pins. The pin is manufactured by Aerosmith Fastening Systems, VersaPin™, part #2385A. The pin head is 0.301" average diameter, pin shank is 0.106" average diameter, these measurements include the coating.

Design pressure: -78.7 psf

Installation: Wall studs shall be 6" CSJ Steel Studs, 20 gauge, with $1\frac{5}{8}$ " legs. The track shall be 6" TSB steel track, 20 gauge, with $1\frac{1}{4}$ " legs. The studs shall be placed 16" on center. The fasteners shall be set 1" up from the bottom edge of the leading course. The next course shall be set to overlap the proceeding course $1\frac{1}{4}$ ", and is considered a face nailed condition.

Note: The manufacturer's installation instructions shall be on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC) and the International Building Code (IBC) and applicable Texas Revisions.